THE ART OF

GRAND THEFT AUTO IV

With each new generation of consoles, we have to revolutionise what we do. As artists, animators, designers, audio engineers, programmers and writers, we have to convince you once again that what we do is worth taking an interest in. We have to take what we've done in the past, throw it away, and start all over again.

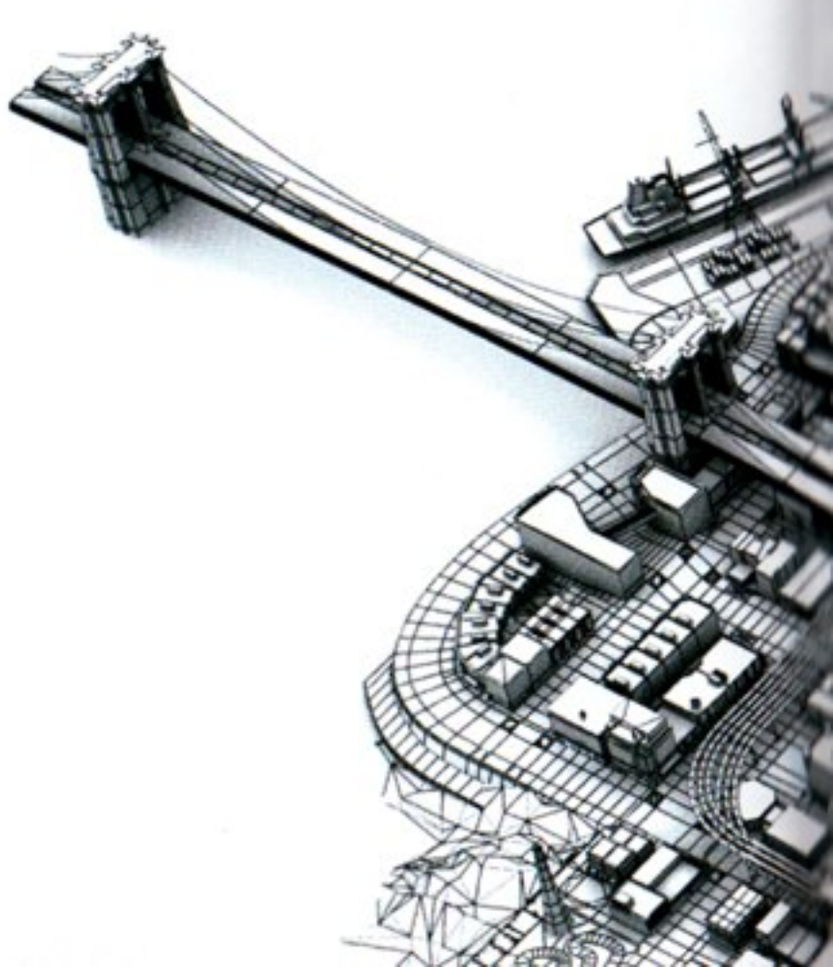
When we moved into the last generation of consoles, there was a very obvious choice in how to evolve the experience. We took the top down world of Grand Theft Auto and moved it into three dimensions. That key difference pulled the player into a new world and immersed them in the experience. For the last 5 years, we continued to push this experience mainly in terms of scale; bigger play areas, more vehicles, more characters, more story, more missions, more features. When we had the opportunity to rethink our process, it became apparent that what we needed to do with all this extra power was to take a look at what we already did well and add detail, rather than simply provide more of everything. This time, the changes are both more subtle and more powerful. Just adding more polygons and bigger textures would be too easy. Instead, our goal was to add detail to the entire experience and to create a world in high definition, both in terms of the visual richness and the opportunities to interact with it. We pushed ourselves hard to add a sense of cohesion to the world, a sense of purpose to the characters that live in it, a sense that the player is part of something larger. We wanted to create a world with its own history, its own sense of identity, with all the scars, landmarks and lived-in feel of a heavily populated metropolis – one that is obviously based on a real city, but still very much its own place.

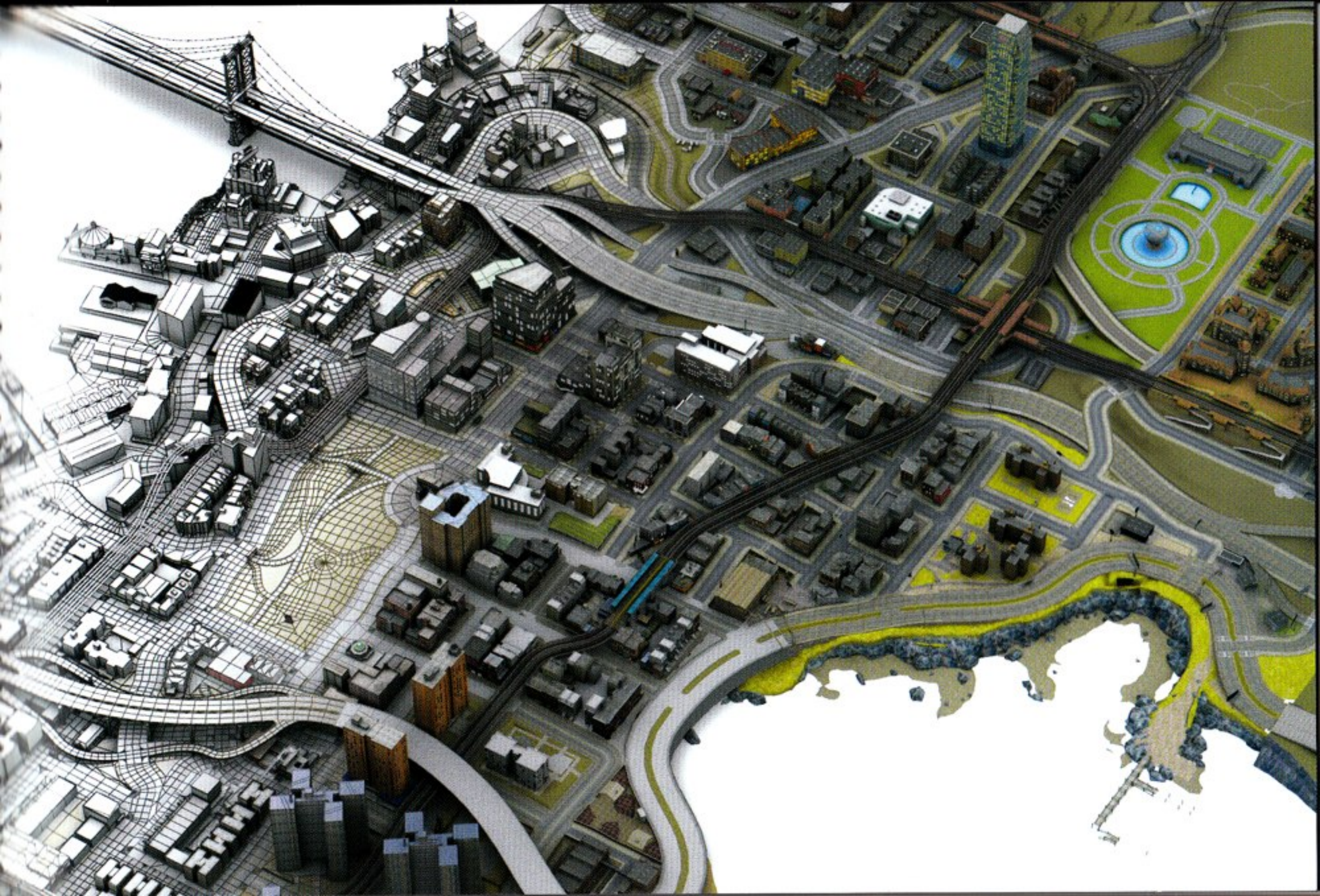
This increase in detail and interaction brought with it a new elevated sense of realism. If the world was more logical and organic, and if the actions of the people within it were much more involved, the world would be more believable to the player and would add weight to his actions, thus creating a more realistic aesthetic. Liberty City is a gritty, dirty place. It's a living caricature of New York, with all the grime and well-worn look. If the city moves towards that, the rest of the visuals have to match. While we were not striving for photorealism, we deliberately moved away from the bright cartoon-like style of the previous installments. We created an unmistakable visual style that is consistent throughout the art design, the storytelling,

the physics, mission design and the interactivity found within this world, all showcased in this book.

The level of detail we wanted brought with it a huge number of complications. The difference between building a free roaming video game world and a tight, level based gaming environment is enormous. We can't cheat. In many games the world is reduced to the level of a movie set. If you could move the camera into the air and look down you'd see that the detail is concentrating around the player. Move away from the accessible sections and the graphics will quickly simplify into nothing. However when you're creating a living city, you must build a world that allows people to go anywhere. The entire world must contain a consistent level of detail. Consider the fact we have helicopters in the game. Any rooftop is now accessible so our world has to hold up from every angle, from a simple cigarette butt on the street to wide angle vistas of entire islands. This increased environmental realism also demands an increased realism of its characters and the need to move more fluidly. Not only do their movements need to be more fluid, they need to be doing more varied and intelligent things. When everything is in place, you have to be able to interact with them properly. The sheer volume and diversity of work that went into building Liberty City is monumental and we hope this book will give you some insight into the process while also showing you some beautiful images of the world.

Each area of the city has more personality and depth than anything we've created in the past. This increased individuality and fidelity had an influence on all aspects of the game. Our design department has created brands for countless companies; apparel, foods, banks, beverages, movies, credit cards, pretty much everything you'd expect to see in a city. All of which carry over to radio, internet and TV for an amazingly complete, coherent experience. While some things can be easily missed when the scale is so big, it's just one example how our obsessive attention to detail is very important to the believability of a world. When you're worrying





about building and populating a city, it's easy to put off the look and feel of a can of soda but if details like this are not considered, the entire experience begins to fall apart. Through the combination of detail, enormous scale and cross referencing, video games can offer an experience unlike any other creative medium. It offers you the chance to experience a virtual world as you would the real one, at your own pace, through multiple ways based on your own perceptions, choices and actions.

It's the interaction with this world that helps push the experience further. We interact with the world in a physical way and by this carrying over to the damage on the cars or the movement of the characters, it adds a layer of realism. Each element interacts properly with the other to the point that smashing a car into a bench will dent the car, and a flying bit of wood will knock over a passerby. Again, it's all about detail.

We infused the world with a real sense of history and depth. To show wear and tear, we blended, bent, beat and aged every part to hint at what it has been through to get to this point. We wanted to remove that computer generated perfection that is all too common in games, whether that meant blending a wall into the pavement with the dirt that collects along its edges, or subtly making an old roof sag. These are the visual touches that people may not consciously notice but makes them feel like they are visiting a real place. We tried to avoid harsh, straight edges. Instead we scuffed, scraped and subtly mixed one surface into another. We wanted to make it seem like all the characters that actually live in this world dirtied and bashed it about, while weather and time also played a role. Essentially we built an organic city, rather than architectural blocks.

All of this has to be done with gameplay in mind. We based Liberty City on New York but we molded it in a way that kept it diverse and as fun as possible. We didn't strictly follow the street plans or building layouts. Instead, we used New York as the flavor, obviously drawing elements from it directly while improvising with others. Liberty City is both our creative reinterpretation of New York and also very much its own place.

This combination of scale and detail, together with an unprecedented level of immersion, freedom and interactivity is what we believe next generation interactive entertainment is all about.

Aaron Garbut,
Art Director, Grand Theft Auto IV

Liberty City at sunrise

WELCOME TO LIBERTY CITY

landscape view of Algonquin

Hove Beach Amusement Park, Broker

FireFly Building, corner of Crockett and Mohawk Avenues

Star Junction, Algonquin

wire frame render showing major geometry of environment

unlit wire frame render with some textures added

ENVIRONMENTS AND OBJECTS

Elizabeta's Apartment, Bohan

concept illustration to guide 3D artists

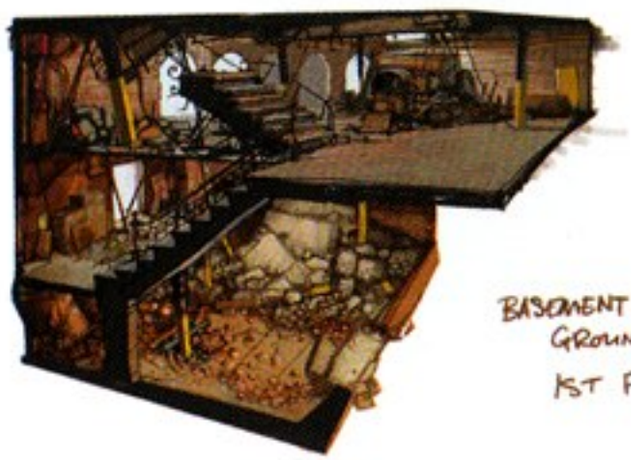
in-game location

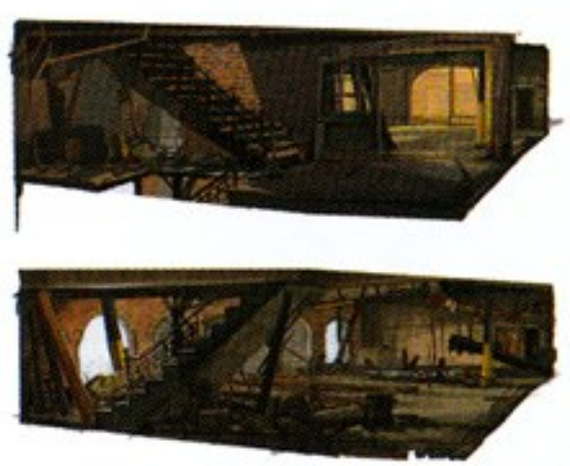
Homebrew Café, Broker

in-game location

concept illustration to guide 3D artists

the Old Sprunk Factory, Alderney



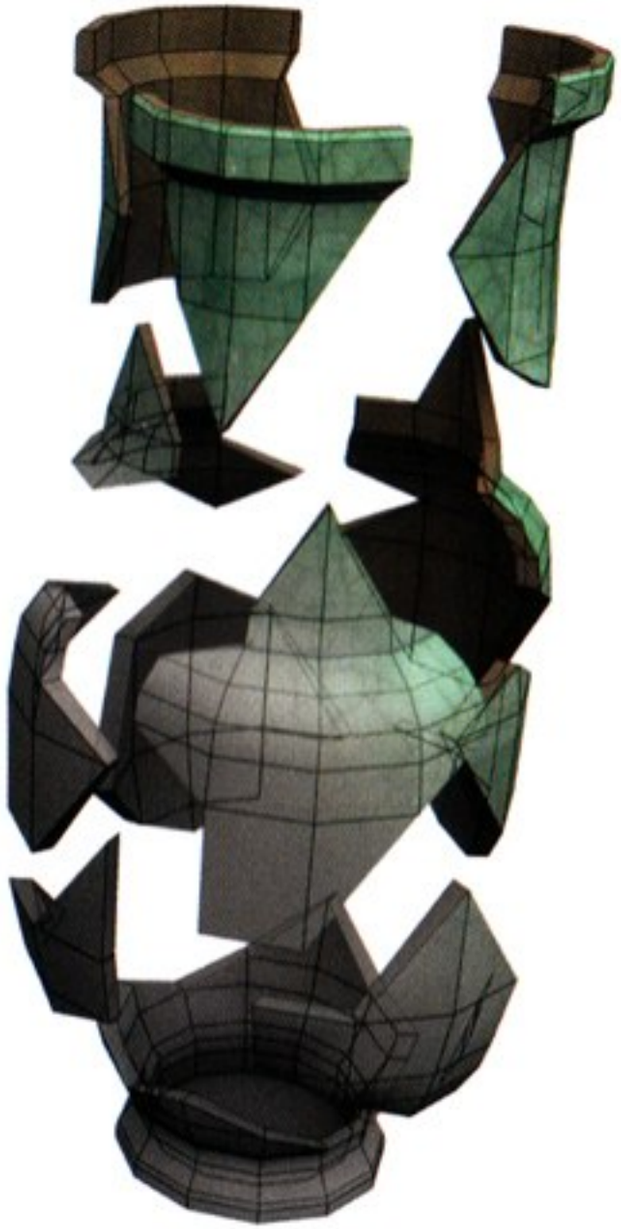


concept illustration for the abandoned warehouse which is used in a major shootout during the mission 'Trespass'

THE LIBERTONIAN MUSEUM

concept sketches for the Libertonian Museum interiors, with a render of the Tyrannosaurus Rex display as seen in the mission 'Museum Piece'

a selection of the thousands of objects that populate the environment and add realism to the experience



most objects are destructible as illustrated by this vase

Dukes, Liberty City

some examples of light throughout the day, during a reasonably clear day in Dukes

5am
6am
7am
9am
12pm
3pm
5pm
6pm
7pm
8pm
9pm
10pm

CHARACTERS

NIKO BELLIC

With Niko Bellic, we've created the most fully rounded video game character yet conceived; a man with a past, present and future, each embodied in his physical presence. At the same time we wanted a character who looked, moved and spoke in a consistent fashion, and who felt like he had lived. He was created to be more of an anti hero than a hero, capable of making positive actions within his criminal world. Above all, we wanted to give him the air of a strong man weighed down by ambiguities and choices. Hundreds of concepts were sketched and refined before both his head and body took shape.

early visual exploration of Niko Bellic

character evolution with concept sketches

animation skeleton

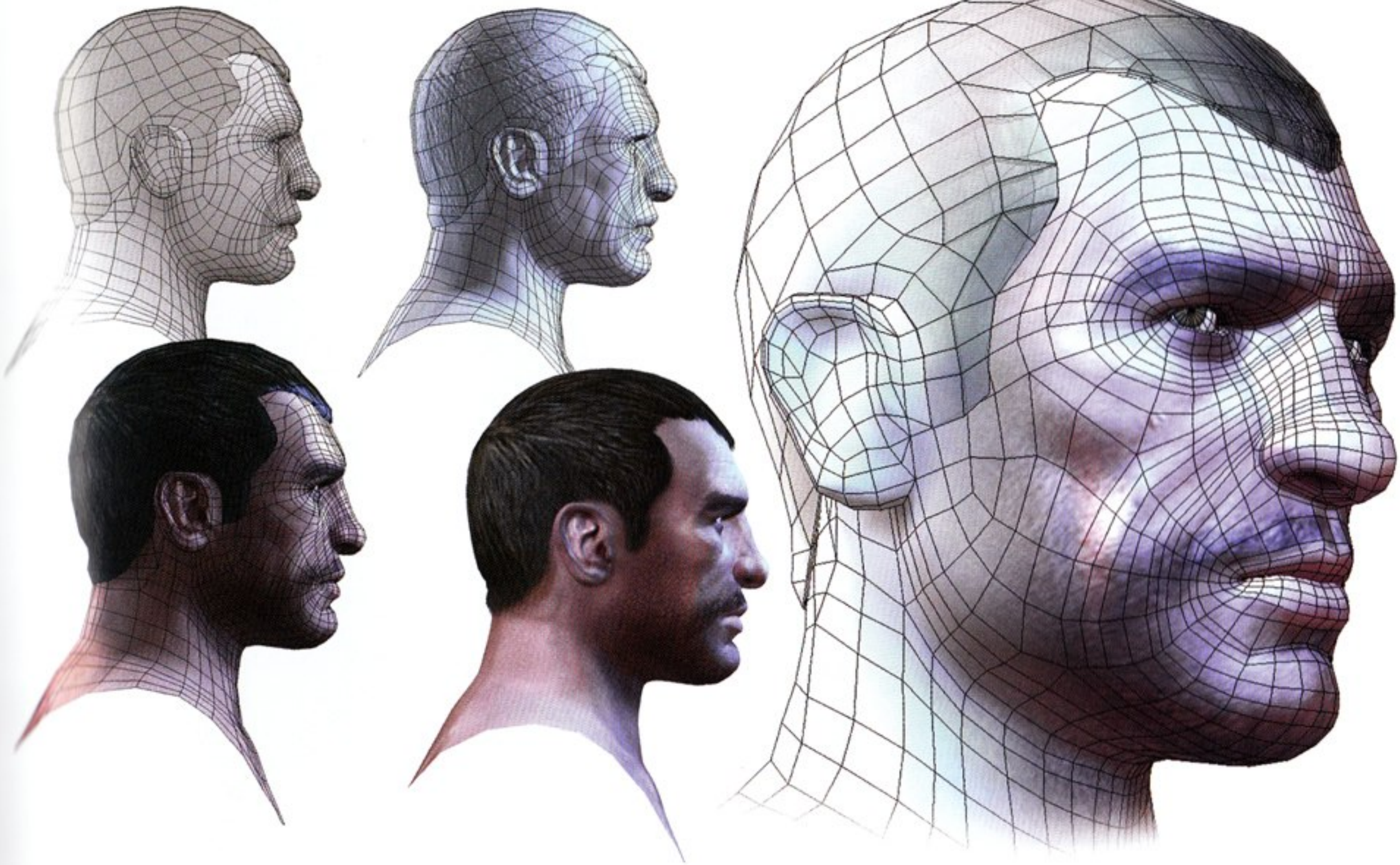
wire frame body

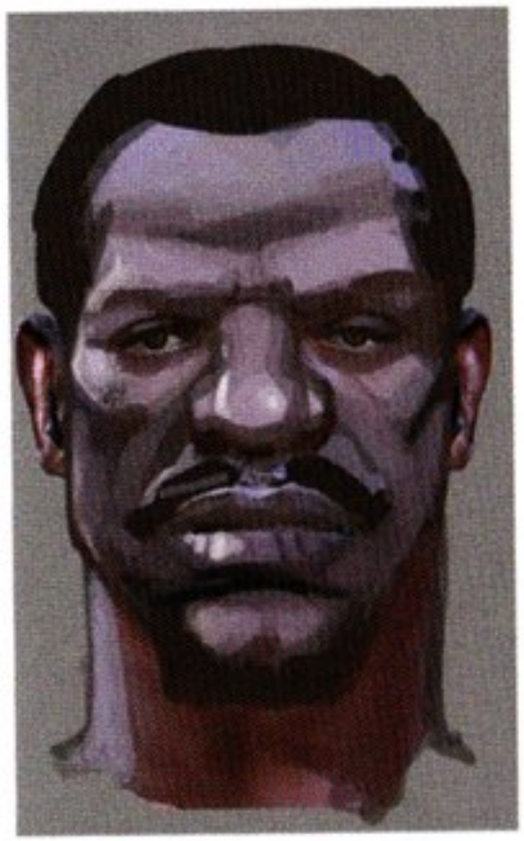
un-textured model

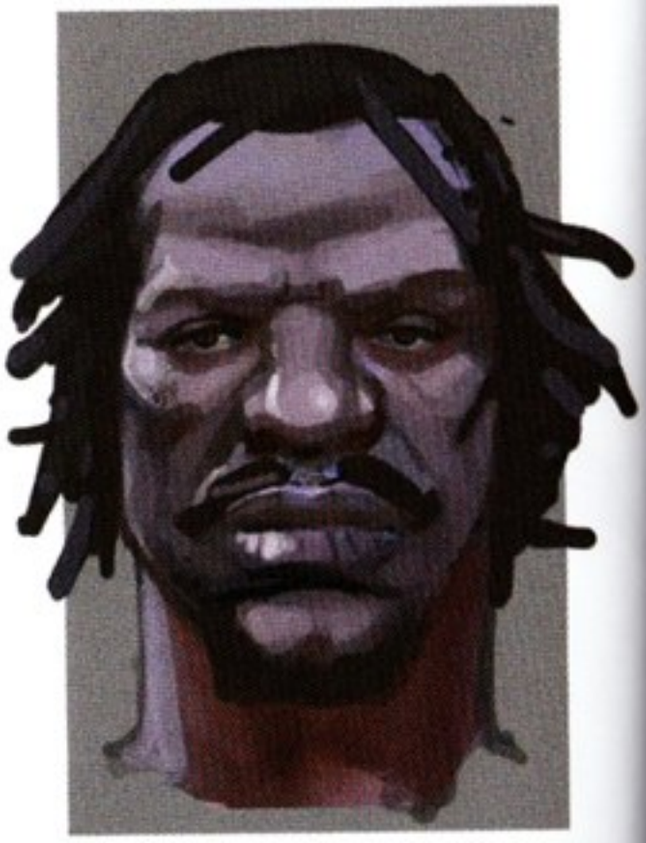
added textures

fully lit render

head model of final Niko Bellic





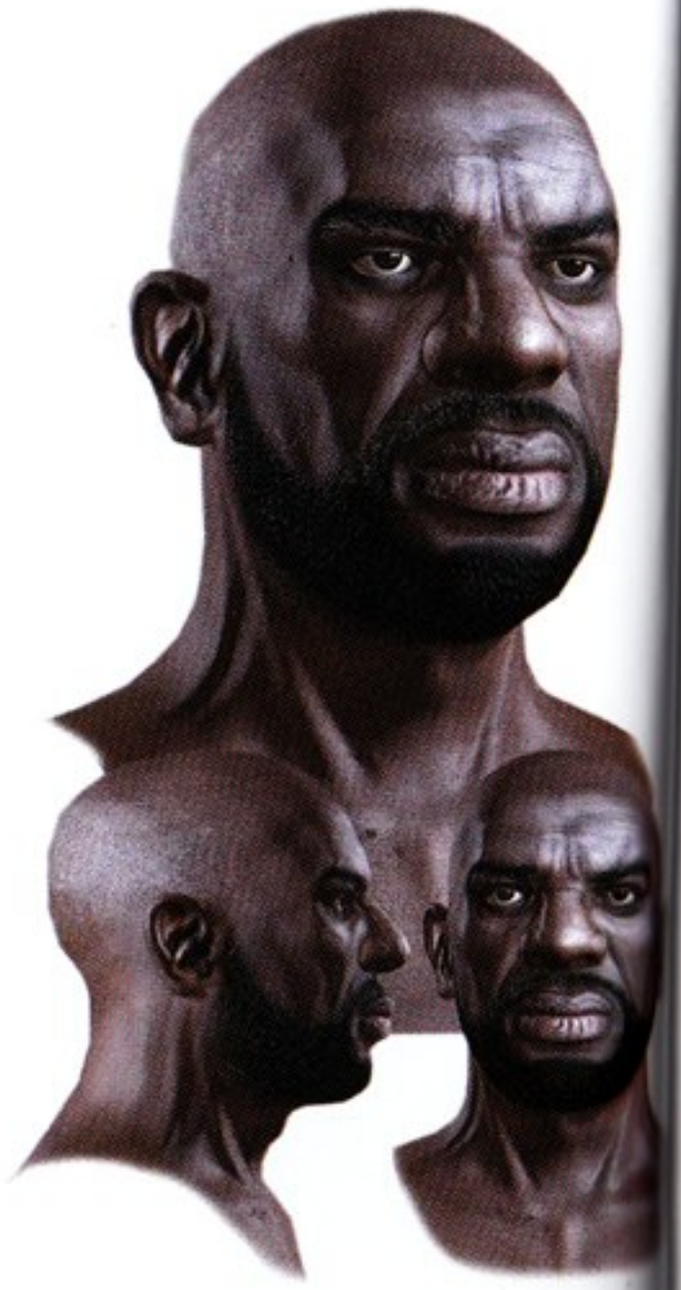


early exploration of Little Jacob character illustrations

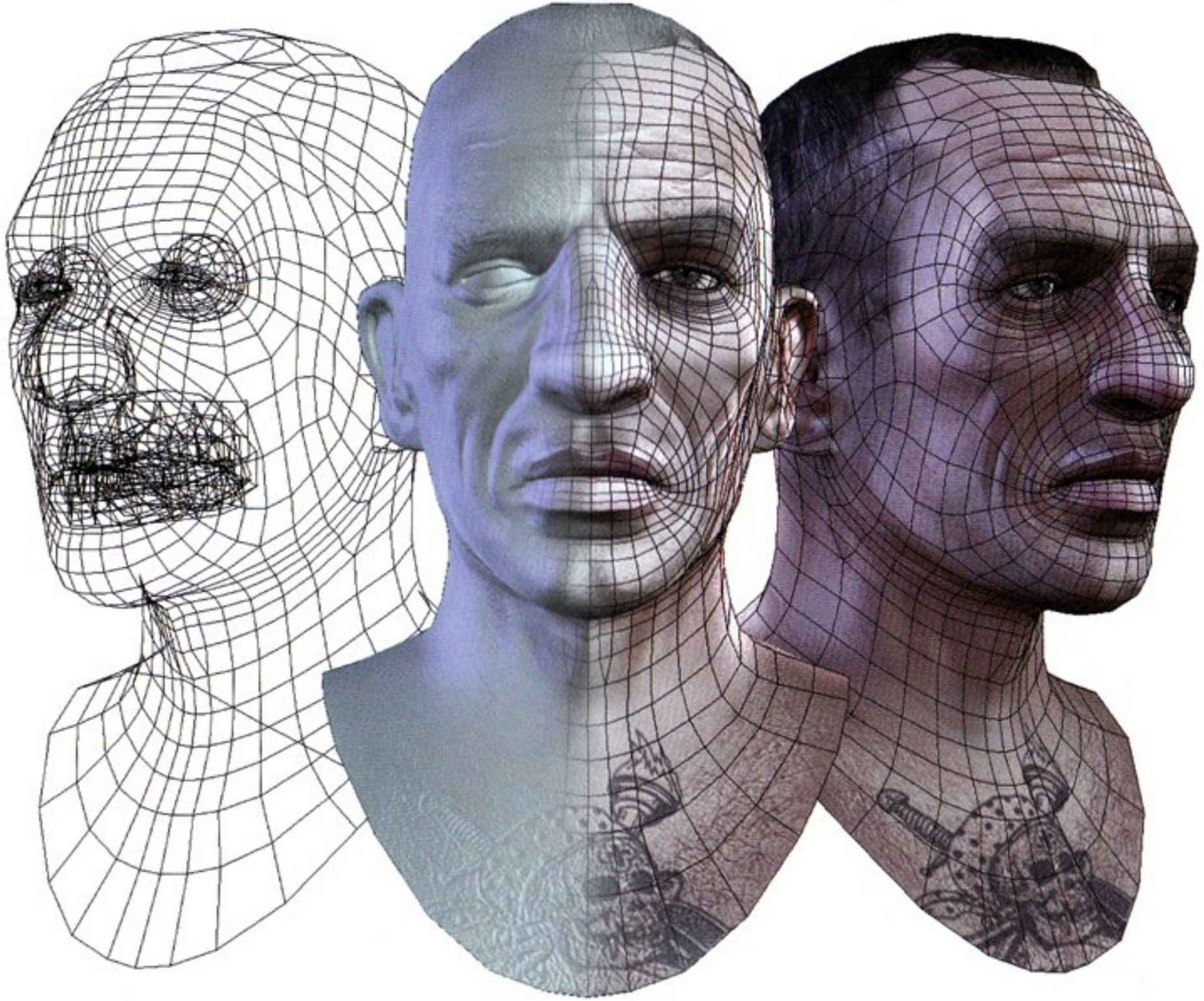
final version of head and body

Elizabeta

Hossan



Dwayne Forge



Mikhail Faustin

FASHION & BRANDING

early sketch exploration of some New York styles

LOTS OF GOLD DETAILING / EARRINGS, BELT, BACK POCKETS ON JEANS, HANDBAG ETC

visual scans for character creation

concept illustrations for some of the characters that exist in the world

Perseus Menswear: Middle Park East, Algonquin

Perseus is a luxury menswear store and is one of the many different retailers throughout the city

PERSEUS
PERSEUS
PERSEUS

this is a small selection of the several hundred brands that exist in Liberty City

COME CLEAN
IT ALL COMES OUT IN THE WASH

SUB URBAN
CLOTHING

binco

Ragga
RUM

LIBERTY
Swingers

Pizza This..
GET STUFFED

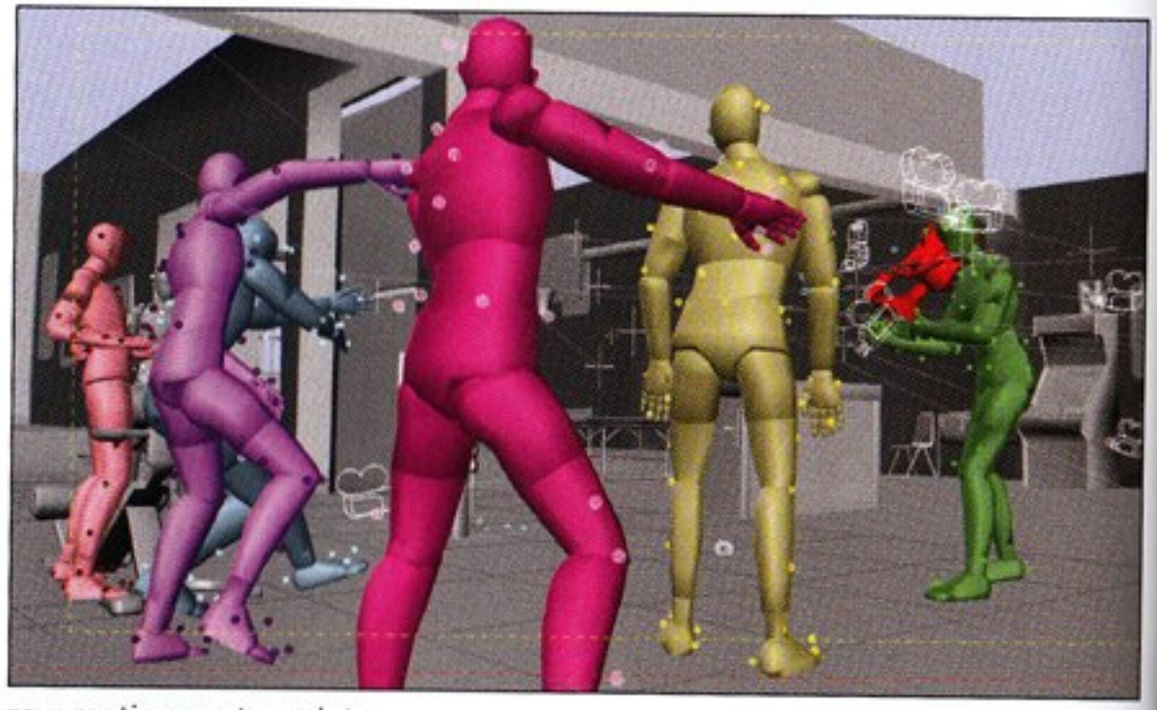
DELIVER ME TIMBERS

ALL GARMENTS ... SEWING ... ALTERATIONS
'Hello Tailor'

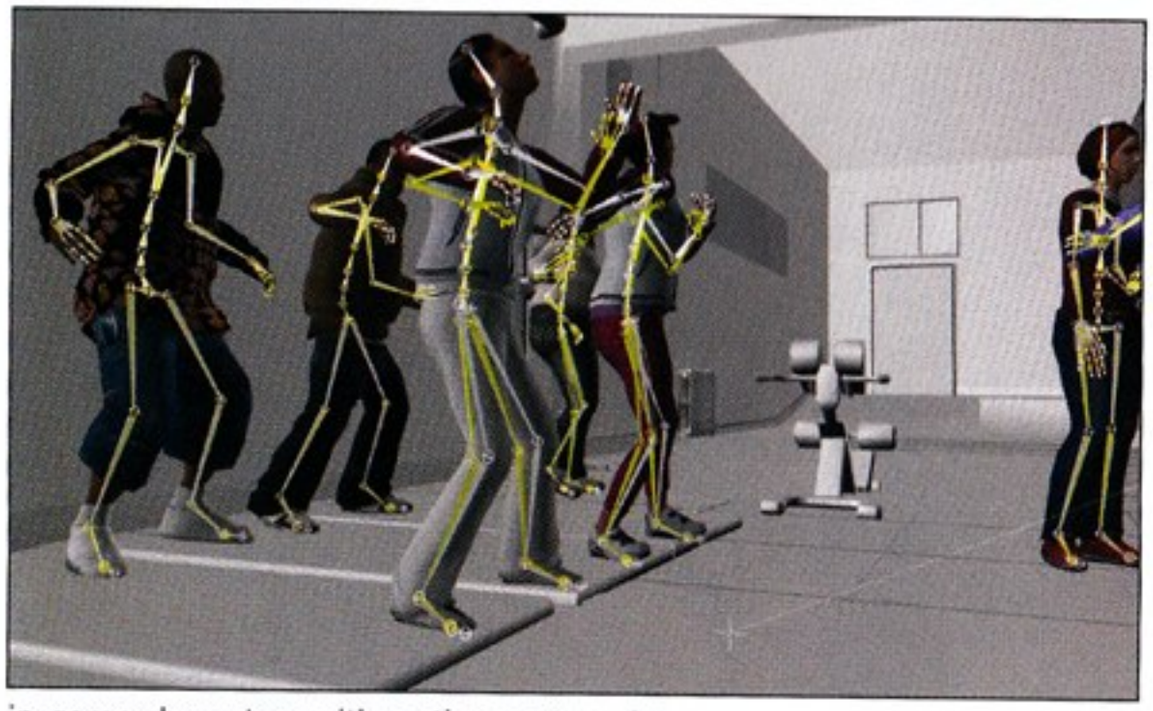
BEER
PATRIOT
SINCE 1776

THE ANIMATION PROCESS

motion capture being performed with actors



raw motion capture data



in-game characters with motion capture data

shot from final scene

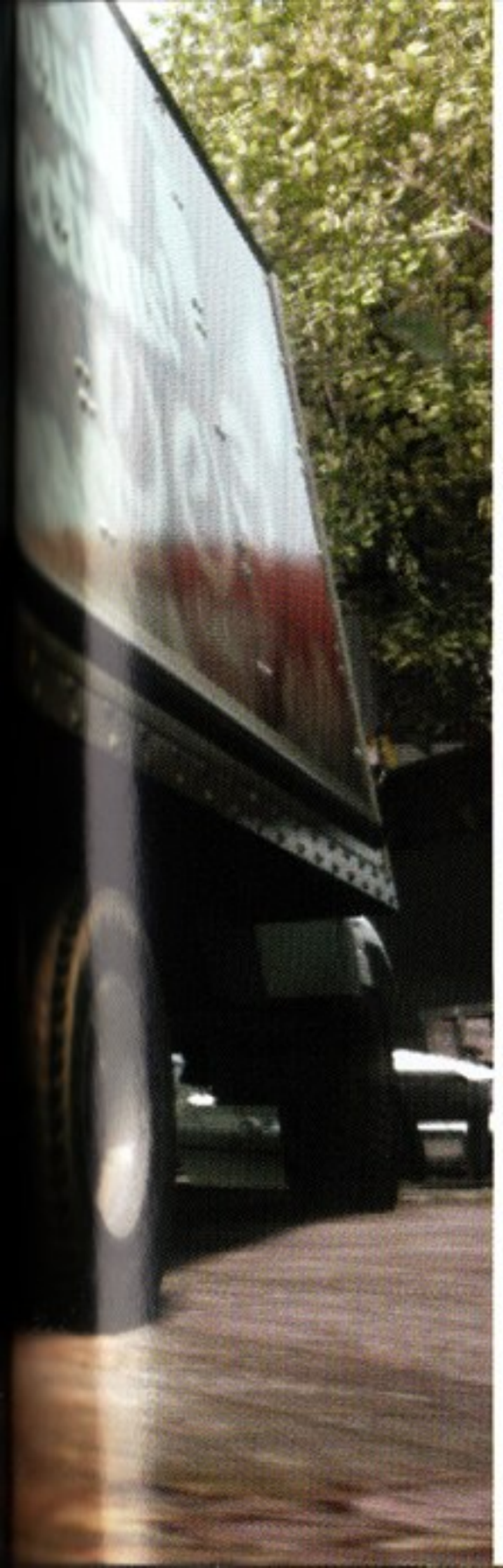
shot from the mission 'Escuela of the streets'

The storyline in Grand Theft Auto IV is paramount in creating an immersive entertainment experience. Animation serves to this story by literally breathing life into its characters. As a player, you will experience this narrative through gameplay and cut scenes, two styles of storytelling which allow you to understand and empathize with each of the game's characters. A mixture of different technologies and techniques have been utilized to make every action and story point come alive to sustain this narrative.

Live actors wearing motion capture rigs are the primary tool by which both in-game action and dramatic cut scenes are brought to life. Up to eight actors at a time will be shot on a motion capture stage, with each actor wearing a full Mo-Cap suit rehearsing and performing from the final script. Due to the interactive nature of video games, each character requires a shortlist of individual moves, and often over a hundred moves will be captured during a single day's shoot. A final cut scene or in-game movement can be taken from any number of different actors' performances across any number of different sessions to make it fit perfectly.

Translating motion captured data into animation allows for enormous creative control, as the characters and actions you see in the final game are often the result of compositing the work of several different performers. Motions of one actor can be

example of how the characters interact with the environment with more realism



combined with the facial and vocal performances of another, which can then be taken and artfully combined, altered and adjusted to create just the right final composite that a specific character demands.

Similarly, the in-game animations that make each character so unique are also a result of compositing different performances. Each varied run, walk, sprint, and punch is generated from a series of edited and customized motion capture performers within different environments.

They are then blended together resulting in the final, fully realized characters you play or encounter throughout the game.

This allied with cutting edge, real time physics on the characters and state of the art A.I., ensures that they respond to physical and environmental stimuli in a realistic way and that our ultimate goal is served; making the world of Grand Theft Auto IV entertaining, immersive and unlike any other entertainment experience you have had.

VEHICLES

SILVERBACK

BRAVADO
BANSHEE

Infernus
PEGASSI

Shutzu

Liberty City Patriotism and Immigration Authority assault helicopter

WEAPONS

LC59
TACTICAL RESPONSE UNIT
LC59

Carbine Rifle: 30 shot clip - 5.9 lbs

Combat Shotgun: 10 shells - 7.7 lbs

there are a total of sixteen different weapons ranging from a knife to a rocket launcher, this is just a small selection

RPG: Single Shot - 15 lbs Launcher - 5.7 lbs Grenade

Assault Rifle: 30 shot clip - 8.4 lbs

Sniper Rifle: 10 shot clip - 17.8 lbs

Pump Shotgun: 8 shells - 5.9 lbs

ROCKSTAR